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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/990,737	11/21/2001	Indra Laksono	VIXS.0100130	3295
29331	7590	08/09/2005	EXAMINER	
TOLER & LARSON & ABEL, L.L.P. 5000 PLAZA ON THE LAKE SUITE 265 AUSTIN, TX 78746			LEE, RICHARD J	
			ART UNIT	PAPER NUMBER
			2613	

DATE MAILED: 08/09/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/990,737

Applicant(s)

LAKSONO ET AL.

Examiner

Richard Lee

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 14 July 2005.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-70 is/are pending in the application.
- 4a) Of the above claim(s) 22-50 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-11, 15-21 and 51-70 is/are rejected.
- 7) ☒ Claim(s) 12-14 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

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1. Applicants' election with traverse of Group I drawn to claims 1-21 and 51-70 is acknowledged. The traversal is on the grounds that the examination of all the claims is not believed to create an undue burden on the USPTO, that the subject matter among the groups is not independent and distinct as required by statute, and different classifications are not independent adequate grounds for restriction since the USPTO has historically examined applications containing multiple sets of claims. The applicants' arguments are found not persuasive for the following reasons. It is submitted again that the search for one group is not required for the other group, and as such results in an undue burden on the Office. The Examiner had identified features within each of the groups in the restriction requirement dated June 23, 2005 why the inventions are distinct, each from the other. Therefore, contrary to the applicants' assertion, since the search for Group I is not required for Groups II and II, the inventions are distinct, and have acquired a separate status in the art as shown by their different classification, restriction for examination purposes is deemed proper. Further, though the Office may have examined applications containing multiple sets of claims, this does not prove that a proper restriction could not have been made in the first place. Essentially, it is up to the Examiner's discretion to restrict claims.

Claims 1-21 and 51-70 will now be examined, while claims 22-50 will be withdrawn from further consideration.

The requirement is deemed proper for reasons above and is hereby made **FINAL!**

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2. Applicant is reminded of the proper language and format for an abstract of the disclosure.

The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 150 words. It is important that the abstract not exceed 150 words in length since the space provided for the abstract on the computer tape used by the printer is limited. The form and legal phraseology often used in patent claims, such as "means" and "said," should be avoided. The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details.

The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc.

3. The abstract of the disclosure is objected to because phrases which can be implied, such as "disclosed" appearing at line 1 of the Abstract should be avoided. Correction is required. See MPEP § 608.01(b).

4. The drawings are objected to because:

(a) the "motion compensation module 200" as specified at page 7 of the Specification is not shown in any of the Figures of the drawings;

(b) at page 10, lines 2-5 of the Specification, it is disclosed that "transcoding quantization value 345 is determined by dividing source quantization value 335 with quantization ratio 320", but Figure 3 of the drawings shows source quantization value 335 being multiplied by quantization ratio 320;

(c) Figure 3 of the drawings is being labeled as "Prior Art", but does not appear to be the case as disclosed in the Specification. Verification is required;

(d) subset 515 as specified at page 11 of the Specification is not shown in any of the Figures of the drawings; and

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(e) elements 550 and 555 as shown in Figure 5 of the drawings have not been identified in the Specification (see below paragraph (4)).

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as “amended.” If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either “Replacement Sheet” or “New Sheet” pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

5. The disclosure is objected to because of the following informalities:

(a) at page 13, line 6 of the Specification, “535” should be changed to “540” in order to agree with Figure 5 of the drawings;

(b) the particular steps 540 and 545 as shown in Figure 5 of the drawings have not been properly disclosed in the Specification. Substep 540 as shown at page 13, line 24 of the Specification appears to be describing substep 550 instead;

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(c) at page 13, line before last and last line, “545” should be changed to “555”, respectively for clarity (see Figure 5).

The applicants are advised to review the Specification thoroughly in connection with Figure 5 of the drawings, and to make the necessary changes within the Specification in order to agree with Figure 5. All elements within Figure 5 should be properly identified and described within the Specification.

Appropriate correction is required.

6. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

7. Claims 11, 17-21, 61, and 67-70 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

The Specification lacks written description for “determining the second quantization value based on **a second ratio of the first ratio to a source bit count**” as recited at claim 11, lines 1-2, “the quantization ratio includes **a first constant value** when the first expected amount of data is greater than a first indicator; the quantization ratio includes a second constant value when **the first expected amount of data is less than the first indicator and greater than a second indicator**” as recited at claim 17, lines 2-5; “the first indicator is a buffer fullness value of **75% +/- 1 %** of a maximum buffer fullness” as recited at claim 18, lines 1-2; the parameter Q, defined as an initial quantization ratio within the equation R as recited in claim 20;

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“modifying a quantization value for a first macroblock by a first constant value when an amount of data stored in a buffer is greater than a first indicator; modifying the quantization value for the first macroblock by a second constant value when the amount of data stored in the buffer is greater than a second indicator and less than the first indicator” as recited in claim 21, lines 2-6; “determine the second quantization value based on a **second ratio of the first ratio to a source bit count**” as recited in claim 61, lines 2-3, “the quantization ratio includes a **first constant value** when the first expected amount of data is greater than a first indicator; the quantization ratio includes a second constant value when **the first expected amount of data is less than the first indicator and greater than a second indicator**” as recited at claim 67, lines 2-5; “the first indicator is a buffer fullness value of **75% +/- 1 %** of a maximum buffer fullness” as recited at claim 68, lines 1-2; and the parameter Q, defined as an initial quantization ratio within the equation R as recited in claim 70.

8. Claims 4-9, 16-20, 54-59, and 66-70 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

For examples:

(1) claim 4, line 2, claim 5, line 2, claim 7, line 1, claim 16, line 2, claim 17, line 2, line 5, line 7, claim 20, line 4 before “data”, “video” should be properly inserted in order to provide proper antecedent basis for the same as specified at claim 1, line 4, respectively; and

(2) claim 54, line 2, claim 55, line 2, claim 57, line 2, claim 66, line 2, claim 67, line 2, line 5, line 7, claim 70, line 5, before “data”, “video” should be properly inserted in order to provide proper antecedent basis for the same as specified at claim 51, line 5, respectively.

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9. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

10. Claims 51-70 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. Independent claim 51 sets for a computer readable medium including instruction to manipulate a processor as described in the preamble, and thereafter recites “receive a first quantization value, ... determine a second quantization value”, essentially a series of steps to be performed on a computer without any post or pre computer physical activities, thereby manipulating an abstract idea without any limitation to a practical application. Further claim 51 fails to show any useful, concrete, and tangible results as required to fall within the statutory classes set forth in 35 U.S.C. 101 and in view of State Street Bank & Trust Co. V. Signatures Fin. Group, Inc. Since dependent claims 52-70 are directed to further computational limitations, claims 51-70 as a whole for reasons above do not fall within the statutory classes set forth in 35 U.S.C. 101.

Suggestion: At claim 51, lines 1-2, replace “A computer ... a processor to” with “A computer program stored in a computer readable medium, said computer program including instructions to manipulate a processor to” in order to overcome the 35 U.S.C. 101 rejection on the claims.



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11. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

12. Claims 1-8, 51-57, and 59 are rejected under 35 U.S.C. 102(e) as being anticipated by Furukawa et al (6,834,080).

Furukawa et al discloses a video encoding method and apparatus as shown in Figure 1, and the same method and computer readable medium including instruction to manipulate a processor as claimed in claims 1-8, 51-57, and 59, comprising the same receiving a first quantization value for a first macroblock (i.e., quantization width QP parameter as generated by 32 of Figure 1, see column 4, lines 18-35, column 5, lines 41-51, column 6, lines 57-61); determining a second quantization value (i.e., parameter correction 34 of Figure 1 corrects encoded parameters, which includes quantization width QP (first quantization value), thereby providing a second quantization value QP' as shown in expression (8), see column 6, lines 57-61, column 7, lines 4-10, column 11, line 64 to column 12, line 21) for the first macroblock based on the first quantization value and a first expected amount of video data in a video buffer (i.e., the number of generated bits 133 of Figure 1 output from buffer 21 represents the first expected amount of video data, which is used as a basis for calculating the second quantization value, see column 7, lines 4-10, column 11, line 64 to column 12, line 21); modifying the first macroblock based on the second quantization value (i.e., as provided by expression (8) at column 12, line 17), wherein the first quantization value is received from a source of the first macroblock ((i.e.,

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as provided by 32 of Figure 1); wherein an address location of a video buffer represents the first expected amount of data in the video buffer (i.e., as provided by 21 of Figure 1), wherein a buffer delay value indicating when a frame is to be processed represents the first expected amount of data in the video buffer, the buffer delay value is based on a number of frames stored in a buffer location of the video buffer (i.e., the number of generated bits 133 of Figure 1 represents the buffer delay value, which is based on a number of frames stored in video buffer 21 and is determined on a modeling of the video buffer 21, see column 5, lines 51-60, column 6, lines 3-8); and wherein the first expected amount of data is determined based on a modeling of the video buffer (i.e., as provided by 21 of Figure 1), wherein the modeling of the video buffer includes determining a fullness of a video buffer based on a difference between a input rate and a output rate (i.e., number of encoded bit determination section 33 determines the fullness of video buffer 21 based on a difference between a input rate (target number of bits 134) and a output rate (number of generated buts 133), thereby providing a modeling of the video buffer, see column 6, lines 3-22).

13. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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14. Claims 9 and 58 are rejected under 35 U.S.C. 103(a) as being unpatentable over Furukawa et al as applied to claims 1-8, 51-57, and 59 in the above paragraph (12), and further in view of Legall et al (5,929,916).

Furukawa et al discloses substantially the same method and computer readable medium including instruction to manipulate a processor as above, but does not particularly disclose wherein the modeling of the video buffer includes using a VBV buffer model as claimed in claims 9 and 58. Such technical features are however old and well recognized in the art, as exemplified by Legall et al (see columns 4-5). Therefore, it would have been obvious to one of ordinary skill in the art, having the Furukawa et al and Legall et al references in front of him/her and the general knowledge of bit budget constraints of a video encoder, would have had no difficulty in providing the VBV buffer modeling system of Legall et al as part of the video encoder as shown in Figure 1 of Furukawa et al for the same well known VBV buffer occupancy level control of the output buffer of a video encoder thereby preventing underflows and overflows purposes as claimed.

15. Claims 10, 15, 16, 60, 65, and 66 are rejected under 35 U.S.C. 103(a) as being unpatentable over Furukawa et al as applied to claims 1-8, 51-57, and 59 in the above paragraph (12), and further in view of Kan et al of record (Low-Complexity and Low-Delay Video Transcoding for Compressed MPEG-2 Bitstream).

Furukawa et al discloses substantially the same method and computer readable medium including instruction to manipulate a processor as above, but does not particularly disclose determining the second quantization value based on a first ratio of a input bit rate to a output bit rate, wherein the second quantization value includes a ratio value of the first quantization value

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to a quantization ratio, the quantization ratio is based on the first expected amount of data as claimed in claims 10, 15, 16, 60, 65, and 66. However, Kan et al teaches the conventional buffer control strategies involving determining the second quantization value (i.e., see equation  $mbquant\ s1 = mbquant\ decode \times (input\ rate/output\ rate)$  at line 1 of page 100 based on a first ratio of a input bit rate to a output bit rate, wherein mbquant s1 represents the second quantization value, see section B at pages 99-100), wherein the second quantization value includes a ratio value of the first quantization value (i.e., mbquant decode within the equation as shown at line 1 of page 100 represents the first quantization value) to a quantization ratio (i.e., input rate/output rate within the equation as shown at line 1 of page 100 represents the quantization ratio), the quantization ratio is based on the first expected amount of data (i.e., the output rate within the equation as shown at line 1 of page 100 represents the first expected amount of data). Therefore, it would have been obvious to one of ordinary skill in the art, having the references in front of him/her and the general knowledge of quantization control for buffers within video encoders, would have had no difficulty in providing the determining of the second quantization value based on a first ratio of a input bit rate to a output bit rate, wherein the second quantization value includes a ratio value of the first quantization value to a quantization ratio, the quantization ratio is based on the first expected amount of data all as taught by Kan et al as part of the video encoder as shown in Figure 1 of Furukawa et al for the same well known quantization control criteria for preventing overflow and underflow of the buffer purposes as claimed.

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16. Claims 12-14 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

17. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Yoneyama et al, Mohsenian, Wang et al, Chiang et al, and Fujiwara disclose various types of video encoders.

18. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Richard Lee whose telephone number is (571) 272-7333. The Examiner can normally be reached on Monday to Friday from 8:00 a.m. to 5:30 p.m, with alternate Fridays off.

  
RICHARD LEE  
PRIMARY EXAMINER

Richard Lee/rl

8/5/05

